

FIGURE 1

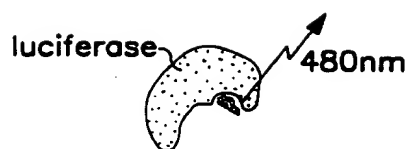


FIGURE 2A

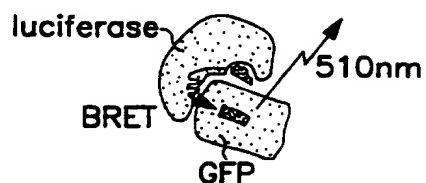


FIGURE 2C

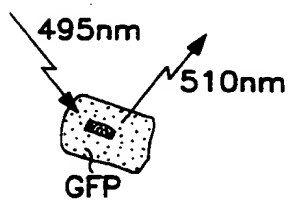


FIGURE 2B

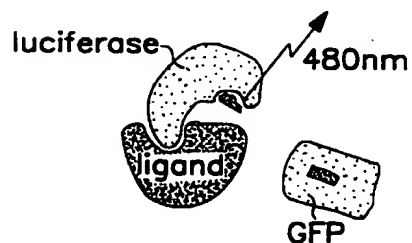


FIGURE 2D

FIGURE 2

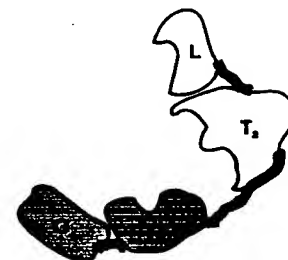
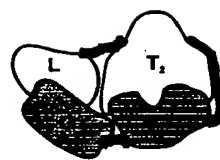
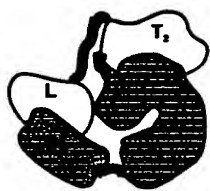
15°

37°



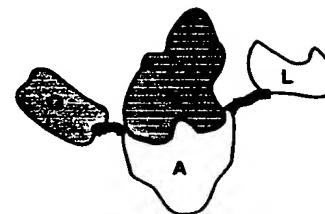
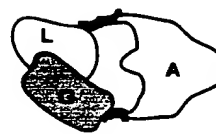
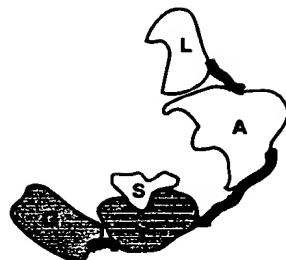
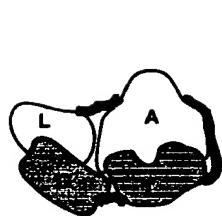
optimized energy transfer module

simple conformational change



complex conformational change

association/dissociation



small molecule interference

large molecule interference



luciferase



GFP



antibody fragment



small molecule



protein domain

BRET sensors are depicted for permissive and non-permissive binding states of the target molecules. Binding may be modulated by varying temperature or ionic strength.

FIGURE 3

## Utilization of advantageous GFP surfaces with substituted fluorophores

	60	*	80	
RM-GFP	:	GAPLPFAFDIVSPA	FQYGNRTFTKYPNDIS--	: 83
Pt-GFP	:	GGPLPFAFDIVSIA	FQYGNRTFTKYPDDIA--	: 83
RR-GFP	:	GAPLPFAFDIVSV	AFSYGNRAYTGYPEEIS--	: 80
cFP484	:	GAPLPFSYDILSNA	FQYGNRALTKYPDDIA--	: 83
drFP583	:	GGPLPFAWDILSP	QFQYGSKVYVKHPADIP--	: 80
asFP595	:	GGPLPFAFHILST	SCMYGSKTFIKYVSGIP--	: 77
dsFP483	:	GGPLPFGWHILCP	QFQYGNKAFVHHPDNIH--	: 80
amFP486	:	GGPLAFSFDILST	VFKEYGNRCFTAYPTSMP--	: 82
zFP506	:	GGPLPFAEDILSA	AFNYGNRVFTEYPQDIV--	: 80
zFP538	:	GGPLPFEEDILS	AGFKYGDRIFFEYPQDIV--	: 80

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FIGURE 4

R<sub>reniform</sub> : ---MDLAKLGLKEVMPPTKINLEGLVGDHFAFMEGVGECNILEGTQEVKISVTKGAPLPFAFDIVSV : 60  
R<sub>mullerei</sub> : MSKQI.KNTC.Q...SYV...I.NN.V.T...C.K...F.N.L.Q.R...P : 66  
P<sub>tilosarcu</sub> : MNRNV.KNT...I.SA.ASV...I.NN.V...F.K...V.F.N.LMQ.R...G...G...I : 66  
drFP583 : ---RSS.NVI...F.RF.VRM...T.NG.E.FI...E...RPY...HNT...LK...G...W...L.P : 63

R<sub>reniform</sub> : \* 20 \* 40 \* 60  
R<sub>mullerei</sub> : \* 80 \* 100 \* 120  
P<sub>tilosarcu</sub> : \* 140 \* 160 \* 180 \* 2  
drFP583 : \* 200 \* 220 \* 240 \* 260

R<sub>reniform</sub> : AFSYGNRAYTGYPEEISDYFLOSEPECFYERNIRYQDCGTAIVKSDISLEDGKEFIVNDFKAKDL : 129  
R<sub>mullerei</sub> : .Q...TF.K.ND...I...A...M...TL.E...LVEIR...N.IED...VYR.EY.GSNF : 132  
P<sub>tilosarcu</sub> : .Q...TF.K.ND...A...V...A...F...L.FE...AIVDIR...D...HYK.EYRNGE : 132  
drFP583 : Q.Q...SKV.VKH.AD.P...KKL...K...VMNFE...VVT.TQ.S...Q...C...YK.K.IGVNF : 129

R<sub>reniform</sub> : 140 \* 160 \* 180 \* 2  
R<sub>mullerei</sub> : RRMGPVMOQDIVGMQPSYFESMTNVTSVIGECIIAFKIQTKHFTYHMRVTYVYKSKPVEITMPLIHF : 195  
P<sub>tilosarcu</sub> : PDD...KT.L.IE...F.A...M.NGVLV...V.LVY...NS...YYSC..K.LM...GV.KEF.S... : 198  
drFP583 : PSD...KA.L.E...F.VV...M.SGVLV...VDLVY...ES.NYYSC..K.F.R...GG.KEF.E... : 198

R<sub>reniform</sub> : 200 \* 220 \* 240 \* 260  
R<sub>mullerei</sub> : IQHRLVKTNNVDTASGYVVOHETAFIAHSTIKKIEGSLP--- : 233  
P<sub>tilosarcu</sub> : ...E.Y.EDGGF-E...QMTS.G.PL...HEWV : 238  
drFP583 : VDSK...DI...SHNEDYTI...E.Y...RTEGR.HLFL----- : 226

FIGURE 5

## FIGURE 6